

***Remarks***

The amendments to the specification correct minor errors and include a reference to newly presented Figure 6. A substitute Abstract is provided that is within the 50-150 word limit. No new matter is believed to be added to the application by this Amendment.

***Status of the Claims***

Claims 1-12 are pending in the application. Claims 4-7 recite subject matter canceled from claims 1 and 2. Claims 8-10 find support at page 6, line 4 of the specification. Support for claims 11 and 12 can be found at page 5, line 18 of the specification.

***Interview***

Applicants thank the Examiner for graciously conducting an interview with Applicants' representative on April 23, 2003. The Interview Summary has been reviewed, and it is believed that it accurately reflects the substance of the interview.

***Objection to the Drawings (Paragraph 1 of the Office Action)***

The Examiner objects to the drawings as not showing every feature of the invention specified in the claims. The Examiner asserts that the heating wires must be shown. Figure 3, as amended, clearly shows the heating wires. Newly

presented Figure 6 (which shows a full cross-sectional view of part of the service t-joint of Figure 1) also clearly shows the heating wires, as described at page 7, lines 20-21 of the specification and in the claims. Also, the specification has been amended to refer to the heating wires 101 shown in Figures 3 and 6.

***Rejection under 35 U.S.C. § 102(b) over Katz (Paragraphs 2-3 of the Office Action)***

Claims 1-3 are rejected under 35 U.S.C. § 102(b) as being anticipated by Katz (U.S. Patent No. 5,577,529). Applicants traverse.

The present invention pertains to an electrofusion joint having a recess. This electrofusion joint is described in claim 1, which states:

An electrofusion joint made of a thermoplastic resin comprising a saddle portion, including but not limited to a saddle joint or service tee joint comprising a saddle portion provided with heating wires embedded in its seating surface to be joined to an outer circumferential surface of a resin pipe; a spigot projecting from said saddle portion or projecting in a lateral direction from a trunk portion projecting from said saddle portion and to which a branch pipe is to be connected; and collar portions formed on both sides of said saddle portion so that a latch of a clamping device can be engaged; wherein a recess is formed at least in a part on said collar portion side, along the base of said spigot or said trunk portion projecting from said saddle portion. (Emphasis added.)

Katz pertains to a tapping fitting for a pipe. The Examiner turns to Figure 1 of Katz that shows an electrical heating wire 6 and an attaching section/saddle 22. Katz fails to disclose a recess.

However, the Examiner asserts that Katz discloses a recess stating at page 3, lines 1-3 of the Office Action that "a recess is formed (step down portion at the base of 2) at least in part on the collar portion side, along the base of the trunk portion 2 projecting from the saddle portion 22."

Katz, however, fails to depict any recess structure in the saddle 22 of Figure 1. The saddle 22 of Katz, in fact, appears to contain reinforcing bands (no reference numbers) that would inhibit the flexing of the saddle to form a close fit to the pipe being joined. The reinforcing bands on the collar 22 of Katz would therefore prevent the larger flexure of the collar portion, such as is discussed at page 5, line 5 of the inventors' specification.

The Examiner has acknowledged the failure of Katz to anticipate the invention. The distinctions of the invention over Katz were discussed with the Examiner during the personal interview with the Applicants' representative on April 23, 2003. In the Interview Summary prepared by the Examiner, the Examiner stated

The prior art reference of Katz was discussed, specifically its lack of a recess of the collared portion. Applicant's (*sic*) representative will supply a Response distinguishing the cited prior art of Katz over the claimed invention. The proposed arguments appear to overcome the prior art rejection, however further search and consideration are required.

Applicants have explained herein the distinctions between the disclosure of Katz and the present invention as presented in the interview. This rejection is accordingly overcome and withdrawal thereof is respectfully requested.

***Information Disclosure Statement***

Applicants thank the Examiner for considering the Information Disclosure Statement filed November 22, 2002 and for making the initialed PTO-1449 Form of record in the application in the Office Action mailed January 29, 2003.

***Conclusion***

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No.42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

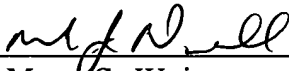
Applicant respectfully petitions under the provisions of 37 CFR 1.136(a) and 1.17 for a one-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit

Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Version With Markings Showing Changes Made  
Figures 3 and 6



**VERSION WITH MARKINGS SHOWING CHANGES MADE**

***In the Abstract***

The Abstract has been rewritten as follows:

ABSTRACT OF THE DISCLOSURE

**[The invention provides an] An electrofusion joint [made] of [a] thermoplastic resin for connection with a resin pipe by heat [generation of] generated has heating wires embedded in its saddle portion [through electric conduction, such as a saddle joint comprising a saddle portion to be fitted to an outer circumferential surface of a resin pipe provided with heating wires embedded in its surface to be joined to the resin pipe, also comprising a spigot projecting from the saddle portion and to which a branch pipe is to be connected, or a service tee joint comprising a saddle portion in which heating wires are embedded, a trunk portion projecting from the saddle portion and a spigot projecting in a lateral direction from the trunk portion].** A recess is formed in a part **[on the] of a** collar portion side along the base of **[the] a** spigot of **[the] a** saddle joint or trunk portion of **[the] a** service tee joint, to increase the length from the recess to the collar portion where a latch of a clamping device is engaged, so that the collar portion becomes sufficiently flexible to achieve closer contact with the pipe and to

prevent defective fusion welding, even though wall thickness or rigidity of the saddle portion is large.

***In the Specification***

The paragraph beginning on page 2, line 18, and continuing to page 3, has been rewritten as follows:

--Wall thickness d of the saddle portion is generally designed to be around 10mm regardless of the dimensions of the saddle portion, based on conventional usage. When wall thickness d is reduced, the saddle portion becomes less rigid and easier to **[be]** fit**[ted]** to the main pipe~~[,].~~ **[t]**~~T~~herefore, a closer contact with the main pipe will be achieved~~[,].~~ **[h]**~~H~~owever, on the other hand, heat generated from heating wires through electric conduction is transferred to the outer surface of the saddle portion, and as a result the saddle portion tends to deform, resulting in lowered interface pressure and consequently in reduced fusion welding strength.--

The paragraph beginning on page 3, line 7, has been rewritten as follows:

--Therefore, as a general remedy a wall thickness d of approximately 10mm is adopted for the saddle portion, and the saddle portion is made with a seating surface that has a slightly larger radius of curvature than the outer diameter of the main pipe, so that the saddle portion can be bent to make close contact with the lateral portions of the circumferential surface of the main pipe when clamped by a clamping device. On one side, if rigidity of the saddle

portion is large, it can hardly be bent by clamping, and if the diameter of the spigot or trunk portion projecting from the saddle portion is large and the distance from the spigot or trunk portion to the collar portion is relatively short, the extent of possible flexure of the collar portion will be limited, resulting in inferior contact~~[ing]~~ closeness with the outer circumferential surface of the main pipe.--

The paragraph beginning on page 6, line 5, has been rewritten as follows:

--The mentioned range of 6 to 9mm **[as the]** wall thickness of the saddle portion has been determined because rigidity of the saddle portion becomes too large to achieve a sufficiently close contact if the wall thickness is more than 9mm, while the saddle portion tends to deform due to heat from the heating wires embedded in the seating surface of the saddle portion, which will lower the fusion welding interface pressure, resulting in reduced fusion welding strength, if the wall thickness is less than 6mm.--

The following paragraph has been added on page 7, line 18:

--Fig. 6 is a full cross-sectional view of part of the service t-joint of Fig. 1.--

The paragraph beginning on page 7, line 19, and continuing to page 8, has been rewritten as follows:



--Fig. 1 and Fig. 2 show a service tee joint, comprising a saddle portion 11 provided with heating wires 101 (See Figs. 3 and 6) embedded in its seating surface to be joined to a resin pipe and a collar portion 11a on its both sides; a trunk portion 12 projecting from saddle portion 11 and into which a hole saw that is not shown is to be screwed; and a spigot 13 projecting in a lateral direction from trunk portion 12 and to which a branch pipe is to be connected; and a recess 14 is formed by denting a certain range on the collar portion side along the base of the trunk portion projecting from saddle portion 11, or outside a small diameter portion where the tip of a hole saw is engaged at the bottom of threaded portion 15 into which a hole saw is screwed.

### ***In the Claims***

The claims have been amended as follows:

1. (Amended) An electrofusion joint made of a thermoplastic resin **[comprising a saddle portion, including but not limited to a saddle joint or service tee joint]** comprising a saddle portion provided with heating wires embedded in its seating surface to be joined to an outer circumferential surface of a resin pipe; a spigot projecting from said saddle portion or projecting in a lateral direction from a trunk portion projecting from said saddle portion and to which a branch pipe is to be connected; and collar portions formed on both sides of said saddle portion so that a latch of a clamping device can be engaged; wherein a recess is formed at least in a part on said collar portion

side, along the base of said spigot or said trunk portion projecting from said saddle portion.

2. (Amended) An electrofusion joint made of a thermoplastic resin **[comprising a saddle portion, including but not limited to a saddle joint or service tee joint]** comprising a saddle portion provided with heating wires embedded in its seating surface to be joined to an outer circumferential surface of a resin pipe; a spigot projecting from said saddle portion or projecting in a lateral direction from a trunk portion projecting from said saddle portion and to which a branch pipe is to be connected; and collar portions formed on both sides of said saddle portion so that a latch of a clamping device can be engaged; wherein said saddle portion has a wall thickness in a range of 6 to 9mm.

Claims 4-12 have been added.